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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,595	07/31/2001	Ashish K. Khandpur	56784US002	2530

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EXAMINER

CHANG, VICTOR S

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,595

Applicant(s)

KHANDPUR ET AL.

Examiner

Victor S. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 13 and 15-21 is/are pending in the application.
- 4a) Of the above claim(s) 17-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13, 15 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. In view of the appeal brief filed on 5/27/2005, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Rejections not maintained are withdrawn. In particular, based on the same previously cited references, the grounds of rejection have been re-written, Applicants' arguments are moot in view of the new grounds of rejection as follows.

Rejections Based on Prior Art

4. Claims 1-10,13,15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gehlsen et al. (US 6103152) in view of Hanson (US 4104323),

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generally as set forth in section 4 of Office action dated 9/22/2004, together with the following additional reasoning and response to argument.

First, for the purpose of clarification, the Examiner repeats the relied upon prior art as follows: Gehlsen's invention is directed to polymer foam articles prepared by melt-mixing a polymer composition and a plurality of microspheres, at least one of which is an expandable polymeric microsphere (Abstract). Various polymers are useful as the polymer matrix of the foam, such as polyphenylene oxide alloys (column 7, line 31), block copolymers of styrene and dienes (column 7, line 38), and block copolymer based adhesive (column 7, lines 40-49).

For claims 1, 2, 13 and 16, Gehlsen lacks a teaching that foamed polyarylene oxide polymer and styrenic block copolymer blend has a weight ratio of 0.05 to 5.0, and its shear holding power is at least 3000 minutes at 70°C (ASTM 3654). However, it is noted that Hansen's invention is directed to an adhesive composition of a blend of polyphenylene ether (i.e., polyarylene oxide polymer) and monoalkenyl arene/conjugated diene block copolymer (i.e., styrenic block copolymer) has greatly improved high temperature properties (abstract). The blend contains 1-100 parts by weight of polyphenylene ether resin alloy per 100 parts of the styrenic block copolymer (column 52, line 66 to column 3, line 2). In Table 3, Hansen summarizes the results of Shear Adhesion Failure Temperature Test (SAFT) showing the improvement in high temperature property of the above-mentioned polymer blend over styrenic block copolymer. As such, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to modify Gehlsen's foamed adhesive of block

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copolymer with a suitable blend of polyphenylene ether/styrenic block copolymer, as taught by Hansen, motivated by the desire to obtain a foamed adhesive has greatly improved high temperature properties. As to peel strength of the adhesive blend, the Examiner notes that since Gehlsen in view of Hansen renders the instant invention obvious, its peel strength is obviously provided once the product is made. It should be noted that mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention. MPEP § 2145.II. Finally, regarding the gel content of the blend, the Examiner notes that the recitation "gel content of less than 25 percent" inherently reads on a gel content of 0%, and renders its presence optional, as such there is no requirement for the prior art to provide or account for them, and it does not constitute a limitation in any patentable sense.

For claims 3 and 4, Gehlsen expressly teaches in Examples 23 and 50-53 that styrene-isoprene-styrene (column 16, lines 57-59) and styrene-ethylene-butylene-styrene block copolymers are used as the polymer matrices (column 19, line 46 to column 20, line 16).

For claims 5-8 and 15, the Examiner notes that the common knowledge or well-known in the art statement in the prior Office action (see Office action dated 11/6/2002, pages 5-6, bridging paragraph) is taken to be admitted prior art because Applicant either failed to traverse the Examiner's assertion of official notice or that the traverse was inadequate. It should be noted that to adequately traverse such a finding, Applicant must specifically point out the supposed errors in the Examiner's action, which

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would include stating why the noticed fact is not considered to be common knowledge or well-known in the art.

For claims 9-10, Gehlsen expressly teaches that the foam may contain agents in addition to microspheres. Examples of suitable agents include those selected from the group consisting of tackifiers, plasticizers, etc. The foam may also include gas-filled voids in the polymer matrix. Such voids typically are formed by including a blowing agent in the polymer matrix material and then activating the blowing agent, e.g., by exposing the polymer matrix material to heat or radiation (column 2, lines 17-27).

Response to Argument

5. With respect to Applicants' argument "Gehlsen does not teach that high cohesive strength and/or high modulus can be achieved without crosslinking or even with "light" crosslinking ... On the contrary, the technique that Gehlsen discloses for obtaining such properties involves relatively extensive crosslinking" (Remarks, page 4, middle paragraph), the Examiner notes that since the recited limitation of gel content appears to be optional, it is not being considered as set forth above. Further, even if suitable amount of crosslinking (or gel content) is required, the Examiner notes that Applicants have not provided any evidentiary support that Gehlsen's teaching is directed to "relatively extensive crosslinking", and in the absence of a factual support, attorney's argument cannot take place of evidence.

With respect to Applicants' argument "the presently claimed articles may optionally have some "light" crosslinking (i.e., gel content below 25%), this low level of

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crosslinking is not what provides the recited high temperature performance. Rather, such performance is accomplished ... via the formation of a network of microphase separated domains formed by the hard styrenic blocks being swollen by the polyarylene oxide ... Thus, unlike Gehlsen, the present invention does not rely on crosslinking to provide high temperature performance, and therefore, cannot be considered an optimization of the Gehlsen technique" (Remarks, page 6, top paragraph), the Examiner respectfully reminds Applicants that evidentiary support for high temperature performance improvement by blending styrenic block copolymer with polyarylene oxide, as taught by Hansen (US 4104323), in Office action dated 1/24/2004, page 4. In an effort to further clarify the grounds of rejection, the heading of section 4 of present Office action has been re-written as "Gehlsen in view of Hansen", as set forth above, and the Examiner repeats that, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to modify Gehlsen's foamed adhesive of block copolymer with a suitable blend of polyphenylene ether/styrenic block copolymer, as taught by Hansen, motivated by the desire to obtain a foamed adhesive has greatly improved high temperature properties.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S. Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 8:30 - 5:00.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VSC
Victor S Chang
Examiner
Art Unit 1771

7/6/2005


TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700